



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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BYRON HAMM

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ADVISED BY MAIL

Please find below and or attached an Office communication concerning this application or proceeding.

Application No.

Applicant(s)

10045828

JELI SNK DAVE

Office Action Summary

Examiner

Art Unit

Hae M Hyeon

2539

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION

Extensions of time may be available under the provisions of 37 C.F.R. 1.136(a) in the event in which an applicant desires to file a response after SIX (6) MONTHS from the mailing date of this communication.

If the period is extended, the date will be the date of the mailing of the communication, with the statutory maximum of thirty (30) days with respect to the date.

IF NO period is extended, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. Failure to reply within the set period may result in the application being abandoned under 37 C.F.R. 1.136(b). Any reply filed by the applicant later than the mailing date of this communication, even if made within the period, will be considered late under 37 C.F.R. 1.136(c).

Status

- 1) ☐ Responsive to communications filed on 06 February 2003
- 2a) ☐ This action is FINAL 2b) ☐ This action is non-final
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-31 is/are pending in the application
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration
- 5) ☐ Claim(s) _____ is/are allowed
- 6) ☐ Claim(s) 1-31 is/are rejected
- 7) ☐ Claim(s) _____ is/are objected to
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement

Application Papers

- 9) ☐ The specification is objected to by the Examiner
- 10) ☐ The drawing(s) filed on 19 January 2002 is/are a) ☐ accepted or b) ☐ objected to by the Examiner
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 C.F.R. 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a) and/or (b)
- a) ☐ All b) ☐ Some c) ☐ None of
- 1 ☐ Certified copies of the priority documents have been received
- 2 ☐ Certified copies of the priority documents have been received in Application No. _____
- 3 ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) to a provisional application
- a) ☐ The translation of the foreign language provisional application has been received
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121

Attachment(s)

- 1 ☐ Notice of Responses (not PTO 85)
- 2 ☐ Notice of Responses (not PTO 85) Review 85-104
- 3 ☐ Notice of Responses (not PTO 85) Review 85-104
- 4 ☐ Notice of Responses (not PTO 85) Review 85-104
- 5 ☐ Notice of Responses (not PTO 85) Review 85-104
- 6 ☐ Notice of Responses (not PTO 85) Review 85-104
- 7 ☐ Notice of Responses (not PTO 85) Review 85-104
- 8 ☐ Notice of Responses (not PTO 85) Review 85-104
- 9 ☐ Notice of Responses (not PTO 85) Review 85-104
- 10 ☐ Notice of Responses (not PTO 85) Review 85-104

DETAILED ACTION

Drawings

1. The drawings are objected to because the reference number 22 pointing at the center of the axis in Figure 2 should be 12. Also in Figure 2, the reference number 30 is pointing at the tube member 14 and the reference number 40 is pointing at thermal transfer layer 30. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: On page 9, line 10, "a thermal transfer layer 20" should be -- a thermal transfer layer 30 --. Appropriate correction is required.

Claim Objections

3. Claims 16, 17, 30 and 31 are objected to because of the following informalities: "The hose" recited in line 1 of claims 16, 17, 30 and 31 should be -- The flame-retardant flexible tubing bundle construction --. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

4. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 1.02, if it is shown that the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12, 16-26, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over "NPFF Multiple Polyethylene Instrument and Control Tubing, Fire Resistant" from Catalog 4200-M-1 of Parker-Hannifin Corporation Fluid Connectors entitled "Parflex Multitube - Instrument and Heat Trace Products" in view of Davidson (6,028,975) and Rahman et al. (5,390,273).

The Catalog 4200-M-1 page A31 discloses NPFF type tubing comprising a plurality of thermoplastic tube members, a flame-resistant ER PVC inner jacket (fire-resistant layer), a heat-resistant tapes (thermal transfer layer) and an outer ER PVC jacket. One or more tube members are extending axially along a longitudinal axis to form a tubing bundle. The flame-resistant inner jacket surrounds the tubing bundle and the heat-resistant tapes surround the flame-resistant inner jacket. The Catalog 4200-M-1 states that the heat-resistant tapes act as additional thermal barrier to further delay the conduction of heat from a flash fire through the tubing. Therefore, it is clear that the heat resistant tape is a thermal transfer layer. The outer ER PVC jacket of NPFF type tubing act as both flame-resistant and moisture barrier layer. However, the NPFF type tubing of the Catalog 4200-M-1 has a reversed order of the fire-resistant layer and the thermal transfer layer. Also, the Catalog 4200-M-1 does not state that the flame-resistant inner jacket, fire-resistant layer, being made of a fibrous material. Furthermore, the Catalog 4200-M-1 does not state that the heat-resistant tapes, thermal transfer layer, being made of a metal foil material.

Rahman discloses a flame resistant optical fiber cable including a fire-resistant layer 13 in form of a tape wrapped spirally about the tubing bundle 4-9. Rahman teaches that the fire-

resistant layer 13 can be formed other than by tape. The layer 13 is made of a non-combustible material, such as woven glass tape, aramid tape or polyimide tape (see column 5, lines 15-23).

Davidson discloses a low thermal skew fiber optic cable including a thermal transfer layer 13 and 14 where the layer 13 is made of a metallized polymer film and the layer 14 is made of a metallic braid layer.

Regarding to claims 2, 4, 5, 7, 8, 10, 17, 18, 20, 21, 25 and 31, the limitations recite a preferred materials and sizes for the thermal transfer layer and the fire-resistant layer. The present specification lists already existing materials as a preferred material for the instant invention. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Iveson*, 125 USPQ 416. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the fire-resistant layer taught by the XP11 type tubing of the Catalog 4200-M-1 such that it would have fire-resistant layer formed of a fibrous material as taught by Rahman because it only deals with forming the fire-resistant layer from different form of materials. The function of protecting the cable from fire remains same whether the fire-resistant layer is formed from a fibrous material, a solid material or any other form of materials.

6 Claims rejected under 35 U.S.C. 103(a) as being unpatentable over "XP11 Multiple Polyethylene Instrument and Control Tubing, Fire Resistant" from Catalog 4200-M-1 of Parker-Hannifin Corporation Fluid Connectors entitled "Partflex Multitube - Instrument and Heat Trace Products", Davidson (6,028,975) and Rahman et al (5,390,273) as applied to claims 1-12, 16-26,

and 30-31 above, and further in view of Sumitomo Electric Lightwave Corporation's Innovative Cable Product Catalog and Cecchi et al (US Patent Application Publication 2002-0136511 A1).

Claims 14-15 and 27-29 recite different materials and form of the moisture barrier layer. While the XP1F type tubing of the Catalog 4200-M-1 does not disclose a separate layer of the moisture barrier, the Innovative Cable Product Catalog pages 1.1-1.4 disclose a cable including a water-blocking tape and Mylar tape. Also, Cecchi discloses a cable including a water-blocking layer formed of a polymeric film.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the XP1F type tubing of the Catalog 4200-M-1 such that it would have a water-blocking layer as taught by Innovative Cable Product Catalog and Cecchi in order to provide further protection to the cable from moisture.

Regarding to the different materials, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 4,653,851 by Pedersen et al., US Patent No. 4,547,626 by Pedersen et al., US Patent No. 4,818,060 by Arroyo, US Patent No. 6,122,424 by Bringulier, US Patent No. 6,167,178 by Nave, US Patent No. 6,173,100 B1 by Newton et al., US Patent No. 6,253,012 B1

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by Keller et al., and U.S. Patent No. 6,330,385 B1 by Sheu disclose a cable having fire-resistant layer, water-blocking layer or combination of both fire-resistant and water-blocking layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hae M Hyeon whose telephone number is 703-308-4802. The examiner can normally be reached on Mon.-Fri. (8:30-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D Feild can be reached on 703-308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Hae M Hyeon
Examiner
Art Unit 2839

hnh /
April 8, 2003